

DECEMBER 2015

General Reevaluation Report



**US Army Corps
of Engineers®**
Sacramento District



**Draft Report
Documentation
Cost Engineering
Appendix**

**WEST SACRAMENTO PROJECT, CALIFORNIA
GENERAL REEVALUATION REPORT**

Draft Report Documentation

Cost Engineering Appendix

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Sacramento District**

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WEST SACRAMENTO PROJECT, CALIFORNIA**GENERAL REEVALUATION REPORT****Cost Engineering Appendix****TABLE OF CONTENTS**

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1. SCOPE

The purpose of this project is to improve levees for flood protection for the City of West Sacramento. On roughly 42 miles will involve, in general, the construction of slurry walls, rip rap rock protection, floodwalls, non-pervious soil plugs, relocation of utilities, removal and replacement of existing surface improvements.

2. OVERTIME

Overtime is not included in the estimate for construction of these improvements. It is assumed work will take place 5 days a week, 8 hr days.

3. AQUISITION PLAN

Project reaches are enough that acquisition is assumed to be competitive bid and not necessarily small business set aside.

4. CONTRACTING PLAN

The prime contractor for the various reaches will vary depending on what is the major driver for the cost of the project. Reaches that are have the slurry wall as the major cost driver and grading and subcontract work is of lesser value the Slurry contractor is assumed to be the prime and if heavy on subcontractors where slurry is not the large cost of the project will be the subcontractor. The grading contractor will be similar in nature.

5. SITE ACCESS

Site access varies on the individual reaches. All reaches have access, whether on the top of an existing levee, surface streets, or water. Some will require in and out on the same levee, other will have the entry point at one location and the exit point at another location. The estimate has tried to capture this situations on a reach by reach basis. The river and Deep Water Ship Channel (DWSC) have been used as the transport and placement route for the rip rap along the Sacramento River and the DWSC.

6. BORROW/DISPOSAL AREAS

Borrow areas for the levee construction are assumed to be from sources within 20 miles of the project locations.

7. CONSTRUCTION METHODOLOGY

The construction methodologies are standard with Deep Soil Mixing and Jet Grouting being the most non-standard types of construction used on the project.

8. UNUSUAL CONDITIONS

There are no known unusual soils conditions.

9. UNIQUE TECHNIQUES OF CONSTRUCTION

The construction techniques proposed on this project consist of standard technologies used on other projects.

10. EQUIPMENT, LABOR RATES, MATERIAL AND OTHER COSTS

Equipment and labor is available locally or within a 50-mile radius of Sacramento, CA. This estimate uses Davis Bacon labor rates for Yolo County in California, General Decision Number: CA140009 05/01/2015 CA9. Equipment rates used are from EP14R07, Region 7, 2014. Material prices were obtained from quotes, supply catalogs, historical data, and the MCACES Unit Price Book.

11. ENVIRONMENTAL CONCERNS

The project schedule accounts for a winter shut down period consistent with known sensitive animals and their normal breeding & migration habits.

12. COST AND PRICING CONTINGENCIES - PROFIT - ESCALATION

Profit is included in this estimate, using the weighted guidelines method, at 7.14% for the Prime Contractor. Sales tax of 8.25% is applied for this project to materials. Job Office Overhead is assumed to be 7%, Home Office Overhead is 10%, and Bond is assumed to be 1% since the prime contractors are assumed to not be small business.

Contingency is not included in this MII estimate, but is included in the TPCS for this project.

Escalation is not included in this MII estimate, but is included in the TPCS using the current CWCCIS tables.

13. DESCRIPTIONS OF REACHES

Training Dike

This reach consists of stripping existing grass off existing training dike and the placement of geotextile fabric and 3' thick layer (~83,000 tn) of stone protection on both sides of an existing training dike approximately 2800' long. Grass to be transported to the Yolo Landfill which will take this material for free with no dump fees charged.

Major risk on this project is the availability and hauling of rock material to site.

Yolo Bypass Levee (North) Sta. 136+00 to 155+00 = 1,900 lf = .36 mi

This reach consists of degrading the existing levee to approx. elevation 28 which will allow for a 30' wide working bench to be built. This material will be stockpiled and reused during the reconstruction of the levee. Additional impervious fill material (clay cap) will be installed as well. A 3' thick soil/bentonite slurry wall varying from 78' to 38' deep from the working platform will be installed. Additional fill will also be placed on the landside of the levee at stations as shown on plans. At completion, a 20' wide aggregate base road 4" thick will be placed.

Yolo Bypass Levee (South) Sta. 0+00 to 64+60 = 6460 lf = 1.22 mi

This reach consists of degrading the existing levee to approx. elevation 28 which will allow for a 30' wide working bench to be built. This material will be stockpiled and reused during the reconstruction of the levee. Additional impervious fill material (clay cap) will be installed as well. A 3' thick soil/bentonite slurry wall varying from 78' to 38' deep from the working platform will be installed. Additional fill will also be placed on the landside of the levee at stations as shown on plans. A 12" water on the water side of levee will be relocated. At completion, a 20' wide aggregate base road 4" thick will be placed.

Lock Closure Levee

Project consists of placing sheet piling, removal of existing concrete and needed, removal of vegetation and trees in footprint area. Import and place 230,000 CY of embankment will be

required to bring top of levee to grade. There are minor utility relocations as well associated with this reach.

DWSC West Station 0+00 to 123+00 Length = 12,300' = 2.33 mi

This Levee Reach will be constructed as one of the first reaches on this project. This reach specifically states to a specific station, but in execution the exact stationing may vary. Additional costs if extended would be taken in the remainder of this levee included in 123+00 to 1002+60.

This reach generally consists of degrading for installation of new slurry walls, reconstruction of levee with imported soils for an impervious fill plug in the reconstructed levee degraded and installation of previous maintenance road. Rip rap will be placed on the Yolo Bypass side of the levee for wind/wave protection. This will most likely be a separate contract from the slurry wall work. Site will be hydro seeded at completion as needed.

DWSC West Levee (Navigation Levee) 123+00 - 1002+60 = 87,960 lf = 16.7 mi

This reach consists of installation of slurry wall along a portion this reach with associated degrade of existing levee, and replacement of levee with a new impervious core installed at the same time. Hydro seed will also be installed at the completion of the project. Also, this reach will include placement of rip rap on the Yolo Bypass side of the levee for wind/wave protection. This will most likely be a separate contract from the slurry wall work.

South Cross Levee Station 0+00 to 62+73 Length = 6,273' = 1.19 mi

This reach consists of the construction of relief wells with associated v-ditch, installation of aggregate base roadway on top, removal of existing fence, installation of stability berm with associated sand and drain rock, the raising of State Highway 84/Jefferson Blvd which includes imported fill, aggregate base and asphaltic concrete and striping. Jet grouting around the existing 120" is currently under review as to whether it is necessary. This cost is included in the estimate at this time.

This reach will require the purchase of private property and removal of out buildings.

Port North Levee (No Improvements)

Port South Levee

This reach consist of underground utility relocation, approximately 1,000 LF of 82' deep slurry wall, replacement of aggregate base at top of levees. Estimate also is carrying costs for additional AB due to unknown if entire levee needs AB.

DWSC East Station 0+00 to 171+71 Length = 17,171' = 3.25 mi

This reach involves the relocation of existing utilities including 21 wooden power poles, relocate existing ditch away from existing levee toe. New construction consists of levee degrade, installation of slurry wall, Jet grouting around existing storm drain, Installation of 48" storm

drain, re-installation of AB levee maintenance road, and hydro seeding as required.

Sac River - North Levee

Construction on this reach involves installation of slurry wall, removal and replacement of existing asphalt along top of existing levee, certain areas contain concrete tiles to be removed and replaced, removal & relocation of existing light poles, power poles, misc utilities to existing homes, levee degrade and restore including non-pervious plug and rip rap.

Sac River - South Levee - SET BACK LEVEE

This reach consists of the removal of the existing levee and associated road on top of it. The soils will be used for the construction of a new setback levee which will have a shallow slurry wall under it with an AB maintenance road. A new road will be built on the land side of the new levee.